

DIN EN ISO 24211:2022-12 (E)

Vapour products - Determination of selected carbonyls in vapour product emissions (ISO 24211:2022)

Contents	Page
European foreword	3
Foreword	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Principle	7
5 Reagents	7
5.1 General.....	7
5.2 Solution preparation.....	8
5.3 Preparation of standards.....	8
5.3.1 General.....	8
5.3.2 HPLC calibration standards and working solutions.....	8
5.3.3 Primary carbonyl standards.....	8
5.3.4 Secondary carbonyl standards.....	9
5.3.5 Carbonyl working standards.....	9
6 Apparatus	9
7 Procedure	10
7.1 Preparation of test samples.....	10
7.2 Glass fibre filter pads handling.....	10
7.3 Aerosol collection and sample preparation.....	10
7.4 Determination of aerosol collected mass (ACM) and e-liquid vaporised mass (EVM).....	11
7.5 Test portion.....	11
7.6 Setting up the apparatus.....	12
7.7 Calibration of the HPLC system.....	13
7.8 Determination.....	13
8 Expression of the results	13
9 Repeatability and reproducibility	14
9.1 General.....	14
9.2 Results of an interlaboratory study.....	14
10 Test report	16
Annex A (informative) DNPH solution (prepared with DNPH containing approximately 30 % water)	17
Annex B (informative) Example of calibration standards preparation	19
Annex C (informative) HPLC chromatogram of a typical aerosol sample containing carbonyls	20
Bibliography	21